

Fig. 49A, Fig. 49B, Fig. 49C and Fig. 49D are explanatory views showing a process for bonding an IC chip to a circuit board by a mounting method according to a twenty-second embodiment of the present invention;

5 Fig. 50 is an explanatory view showing a process  
for bonding an IC chip to a circuit board by the mounting  
method of the twenty-second embodiment of the present  
invention;

Fig. 51A and Fig. 51B are an explanatory view  
10 showing a modification example of the sixteenth embodiment  
in which a thermosetting resin sheet is formed on the IC  
chip 1 side and an explanatory view showing a modification  
example of the sixteenth embodiment in which a  
thermosetting adhesive is formed on the IC chip 1 side;

15 Fig. 52 is a graph of a relation between a  
resistance value and a load in the case of a bump that has  
an outside diameter of 80  $\mu\text{m}$  in the sixteenth embodiment:

Fig. 53 is a graph showing a region of high reliability based on a relation between bumps that have outside diameters of 80  $\mu\text{m}$  and 40  $\mu\text{m}$  and a minimum load in the sixteenth embodiment.

Fig. 54 is a graph of a relation between a heating temperature and a reaction rate of a resin sheet in the eighteenth embodiment:

Fig. 55 is a perspective view of an electronic device.

COMPONENT MOUNTING APPARATUS  
FOR A CIRCUIT BOARD

component mounting apparatus used in the sixteenth embodiment;

Fig. 56A, Fig. 56B, Fig. 56C and Fig. 56D are a perspective view showing a position recognizing operation on the component side of the electronic component mounting apparatus of Fig. 55, a view of a position recognition image of the component, a perspective view showing a position recognizing operation on the board side, and a view of a position recognition image of the board, respectively;

Fig. 57 is a schematic view of a supersonic wave applying device used in the nineteenth embodiment;

Fig. 58 is a schematic view of a sticking device used in the twentieth embodiment;

Fig. 59A and Fig. 59B are enlarged sectional views in the vicinity of a bump for explaining a comparison between an ACF processing method and the processing method of the above embodiment;

Fig. 60 is a schematic sectional view of a bonded state achieved by a method and apparatus for mounting an electronic component of, for example, an IC chip on a circuit board according to a twenty-fourth embodiment of the present invention;

Fig. 61 is a partially enlarged schematic sectional view of a resin sheet employed by the method and

apparatus for mounting the electronic component of, for example, an IC chip on the circuit board of the twenty-fourth embodiment;

5 Fig. 62 is a schematic sectional view of an insulating resin and an inorganic filler in a bonded state achieved by a method and apparatus for mounting an electronic component of, for example, an IC chip on a circuit board according to a twenty-eighth embodiment of the present invention;

10 Fig. 63A, Fig. 63B, Fig. 63C and Fig. 63D are schematic sectional views of various examples of electronic component units of an insulating resin layer employed by a method and apparatus for mounting an electronic component of, for example, an IC chip on a circuit board according to a twenty-ninth embodiment of the present invention;

15 Fig. 64A, Fig. 64B, Fig. 64C and Fig. 64D are schematic sectional views of various examples of an insulating resin layer employed by a method and apparatus for mounting an electronic component of, for example, an IC chip on a circuit board according to a modification example of the twenty-ninth embodiment of the present invention;

20 Fig. 65 is a schematic sectional view of a bonded state achieved by using the insulating resin layer employed by the method and apparatus for mounting the electronic component of, for example, an IC chip on the circuit board

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